

BF



(12) **EUROPEAN PATENT APPLICATION**

(88) Date of publication A3:
10.03.1999 Bulletin 1999/10

(51) Int Cl. 6: **A61B 17/70**

(43) Date of publication A2:
18.11.1998 Bulletin 1998/47

(21) Application number: **98108437.9**

(22) Date of filing: **08.05.1998**

(84) Designated Contracting States:
AT BE CH CY DE DK ES FI FR GB GR IE IT LI LU
MC NL PT SE
Designated Extension States:
AL LT LV MK RO SI

(72) Inventors:
• **Lin, Chih-I**
Diamond Bar, California 10765 (US)
• **Nichols, David**
Memphis, Tennessee 38111 (US)

(30) Priority: **15.05.1997 US 856916**

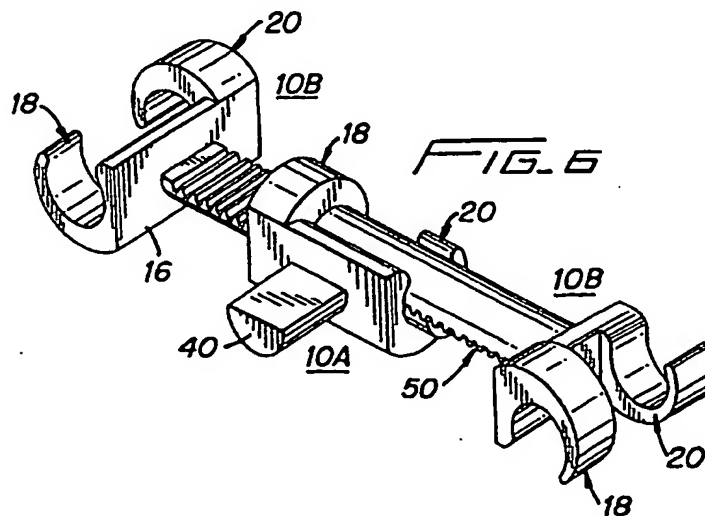
(71) Applicant: **Surgical Dynamics**
Norwalk, CT 06856 (US)

(74) Representative: **Marsh, Roy David et al**
Hoffmann Eitle,
Patent- und Rechtsanwälte,
Arabellastrasse 4
81925 München (DE)

(54) **Transverse spinal rod connector clip**

(57) A device for connecting two elongated spinal rods to one another in a spinal fixation system comprising a clip body including a first portion and a second portion, the first portion of the clip body configured to receive and engage a first elongated spinal rod, the second portion of the clip body having a transverse bore

therein for receiving a second elongated spinal rod extending transverse to the first elongated spinal rod; and a locking member dimensioned and configured for mounting in the transverse bore in the second portion of the clip body so as to fix the position of the second elongated spinal rod with respect to the first elongated spinal rod.



EP 0 878 170 A3

BEST AVAILABLE COPY

European Patent
Office

EUROPEAN SEARCH REPORT

Application Number
EP 98 10 8437

DOCUMENTS CONSIDERED TO BE RELEVANT			
Category	Citation of document with indication, where appropriate, of relevant passages	Relevant to claim	CLASSIFICATION OF THE APPLICATION (Int. CL.6)
X A	EP 0 565 149 A (BRISTOL-MYERS SQUIBB) 13 October 1993 * column 3, line 43 - line 45; figures 1,4 *	1-3,20, 21 5,8-10, 23-25	A61B17/70
X A	US 5 507 746 A (C.-I.LIN) 16 April 1996 * figures 7,8 *	1,5,6,9 4,7,10	
X	EP 0 553 042 A (EUROS AND J.M.GENNARI) 28 July 1993 * column 5, line 15 - line 31; figures 11,15 *	1,5,9	
X	GB 2 051 581 A (J.S.KEENE) 21 January 1981 * page 3, line 78 - line 116; figures 1,5,8 *	1,5,9	
X A	US 5 439 463 A (C.-I.LIN) 8 August 1995 * column 2, line 57 - column 3, line 9 * * column 3, line 46 - column 4, line 58; figures 1,4A,4D *	5,7,13, 17,18,23 8,16	TECHNICAL FIELDS SEARCHED (Int. CL.6) A61B
X A	EP 0 590 745 A (AMEI TECHNOLOGIES) 6 April 1994 * figure 1 *	13 23	
A	US 5 380 326 A (C.-I.LIN) 10 January 1995 * figure 1A *	1,9,11, 12	
A	EP 0 536 066 A (FIXANO) 7 April 1993 * figures 2,3 *	13,17	
P,X	EP 0 811 357 A (STRYKER FRANCE) 10 December 1997 * figures 1,3 *	5,7,8	
The present search report has been drawn up for all claims			
Place of search THE HAGUE		Date of completion of the search 13 January 1999	Examiner Nice, P
CATEGORY OF CITED DOCUMENTS X: particularly relevant if taken alone Y: particularly relevant if combined with another document of the same category A: technological background O: non-written disclosure P: intermediate document T: theory or principle underlying the invention E: earlier patent document, but published on, or after the filing date D: document cited in the application L: document cited for other reasons & : member of the same patent family, corresponding document			

EPO FORM 120 (01.92) (P.01/001)



European Patent
Office

Application Number

EP 98 10 8437

CLAIMS INCURRING FEES

The present European patent application comprised at the time of filing more than ten claims.

- ☐ Only part of the claims have been paid within the prescribed time limit. The present European search report has been drawn up for the first ten claims and for those claims for which claims fees have been paid, namely claim(s):
- ☐ No claims fees have been paid within the prescribed time limit. The present European search report has been drawn up for the first ten claims.

LACK OF UNITY OF INVENTION

The Search Division considers that the present European patent application does not comply with the requirements of unity of invention and relates to several inventions or groups of inventions, namely:

see sheet B

- ☒ All further search fees have been paid within the fixed time limit. The present European search report has been drawn up for all claims.
- ☐ Only part of the further search fees have been paid within the fixed time limit. The present European search report has been drawn up for those parts of the European patent application which relate to the inventions in respect of which search fees have been paid, namely claims:
- ☐ None of the further search fees have been paid within the fixed time limit. The present European search report has been drawn up for those parts of the European patent application which relate to the invention first mentioned in the claims, namely claims:



European Patent
Office

LACK OF UNITY OF INVENTION
SHEET B

Application Number
EP 98 10 8437

The Search Division considers that the present European patent application does not comply with the requirements of unity of invention and relates to several inventions or groups of inventions, namely:

1. Claims: 1-12

Spinal fixation systems with connected spinal rods
transverse to each other.

2. Claims: 13-26

Spinal fixation systems with opposed spaced apart arcuate
rod engaging hooks

**ANNEX TO THE EUROPEAN SEARCH REPORT
ON EUROPEAN PATENT APPLICATION NO.**

EP 98 10 8437

This annex lists the patent family members relating to the patent documents cited in the above-mentioned European search report. The members are as contained in the European Patent Office EDP file on
The European Patent Office is in no way liable for these particulars which are merely given for the purpose of information.

13-01-1999

Patent document cited in search report	Publication date	Patent family member(s)	Publication date
EP 0565149 A	13-10-1993	AU 3280293 A	16-09-1993
		CA 2088961 A	11-09-1993
		JP 5344995 A	27-12-1993
		US 5437671 A	01-08-1995
US 5507746 A	16-04-1996	NONE	
EP 0553042 A	28-07-1993	FR 2686500 A	30-07-1993
		AT 164504 T	15-04-1998
		DE 69317682 D	07-05-1998
		ES 2117116 T	01-08-1998
GB 2051581 A	21-01-1981	US 4269178 A	26-05-1981
		AU 532978 B	20-10-1983
		AU 5903880 A	11-12-1980
		CA 1150120 A	19-07-1983
		DE 3021238 A	11-12-1980
		FR 2458271 A	02-01-1981
		JP 56036944 A	10-04-1981
US 5439463 A	08-08-1995	NONE	
EP 0590745 A	06-04-1994	US 5334203 A	02-08-1994
		CA 2106641 A	31-03-1994
		JP 6189994 A	12-07-1994
US 5380326 A	10-01-1995	NONE	
EP 0536066 A	07-04-1993	FR 2681776 A	02-04-1993
		US 5368594 A	29-11-1994
		DE 69209960 D	23-05-1993
EP 0811357 A	10-12-1997	FR 2749156 A	05-12-1997
		AU 2371097 A	11-12-1997
		CA 2206853 A	03-12-1997
		JP 10080432 A	31-03-1998
		NZ 314986 A	26-06-1998

EPO FORM P439

For more details about this annex : see Official Journal of the European Patent Office, No. 12/82